

ABSTRACT OF THE DISCLOSURE

The present invention can diagnose a potential discrepancy in electrical operating characteristics of an electric motor by generating two independent torque
5 estimates using a plurality of current sensors and optionally a shaft position sensor. The invention provides a strategy to generate two independent torque estimates of a three phase electric motor comprising first and second systems to determine current in each motor phase, first and
10 second systems to generate a first and second estimate of motor shaft position, and first and second systems to generate first and second estimates of motor torque using the first and second systems to determine current in each motor phase and the first and second estimates of motor
15 shaft position. The present invention detects also an electrical operating characteristic discrepancy in an electric motor-propelled vehicle's electrical components and subsystems, including single subsystem discrepancies between the two independent torque estimates.